

# Work Order ID 70858

Thursday, June 16, 2011 2:22:08 PM



Page 1

Item ID: D3689-1

Revision ID:

Item Name: SLEEVE

Start Date: 6/16/2011 Start Qty: 4.00

Required Date: 6/23/2011 Req'd Qty: 4.00

Accept



Setup Start



Stop



Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D3689

Rev B

100

0.00



DOOSAN LATHE

Doosan

Memo

0.00

Doosan Lathe

1- Turn as per Folio FA722 Rev: AK & Dwg D3689 Rev: B  
2-CHECK THREAD WITH GO-NO GO GAUGE DT9450 A & B  
3-Deburr per dwg D3689

RR 11-7-12 8

110

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

RR 11-7-12 8

120

0.00



CONVENTIONAL MILLING MACHINE

Mill Conv

Memo

0.00

Conventional Milling Machine

C'sink .188" holes as per dwg D3689

RR 11-7-13 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Customer:

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

R 11-7-13

8

140

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

J 11/7/13

8

100% CHECK,CHECK ALL DIMENSIONS AND THREAD FIT

150

PURCHASING

0.00



Purchasing

Memo

0.00

Purchasing

Issue P/O: 14488  
LPI Per ASTM 1417 LEVEL 2  
Certificate of conformaty is required

CZ 11/10/15 ⑧

W/O:		WORK ORDER CHANGES					
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Revision ID:

Item Name: SLEEVE

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Start Date: 6/16/2011 Start Qty: 4.00



Cust Item ID:

Required Date: 6/23/2011 Req'd Qty: 4.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160

Receive & Inspect for Damage & Mat'l Certs

0.00



Packaging

Memo

0.00

Packaging

Ensure certificate of conformity is attached

6/27/15 (8)

170

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

SB 6/27/15

(8)

180

Identify as per dwg & Stock Location: GA

0.00



Packaging

Memo

0.00

Packaging

SB 6/27/15

(8)

W/O:		WORK ORDER CHANGES					
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**NOTE:** Date & initial all entries

**Work Order ID 70858**

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Item ID: D3689-1

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Item Name: SLEEVE

Start Date: 6/16/2011 Start Qty: 4.00



Cust Item ID:

Required Date: 6/23/2011 Req'd Qty: 4.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/7/18

11-07-18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries



# Picklist Print

Thursday, June 16, 2011 2:22:14 PM

Page 1

Work Order ID: 70858



Parent Item: D3689-1



Parent Item Name: SLEEVE

Start Date: 6/16/2011

Required Date: 6/23/2011

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:A New Issue 08-02-11 JLM Verified By:EC  
IPP Rev:B Material Change 09-01-07 JLM Verified By:EC  
IPP Rev:C Add note on material cutting JLM Verified By:JM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M174PH-H900R1.375

Purchased

No

100

f

30.1300

0.5

2.105263



Re 11.7.13

17-4 SS H900 ROUND BAR 1.375

Location

Loc Qty

Loc Code

MAT030

30.13

111123✓

30.13

281

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	78858
<b>Description: Sleeve</b>		<b>Part Number:</b>	D3689-1
<b>Inspection Dwg: D3689 Rev: B</b>		<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.90	+/-0.030	1.90	/		29.02	
Ø0.768	+/-0.010	.765	/			
Ø0.063	+0.005/-0.001	.063	/			
R0.06	+/-0.030	R.030	/			
3/4-16UNF-2B	N/A	2B	/			
0.035 x 45°	+/-0.010 x 0.5°	.035	/			
1.5	+/-0.030	1.490	/			
1.35	+/-0.030	1.35	/			
Ø0.188	+0.005/-0.001	.188	/			
90°	0.5°	90°	/			
Ø0.250	+/-0.010	.250	/			
Ø1.075	+0.000/-0.015	1.068	/			
1.13	+/-0.030	1.133	/			
4.00	+/-0.030	4.000	/		11	

<b>Measured by:</b>	<i>R</i>	<b>Audited by:</b>	<i>SA</i>	<b>Prototype Approval:</b>	N/A
<b>Date:</b>	11.7.13	<b>Date:</b>	11/7/13	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	09.05.11	New Issue	KJ	<i>SA</i>

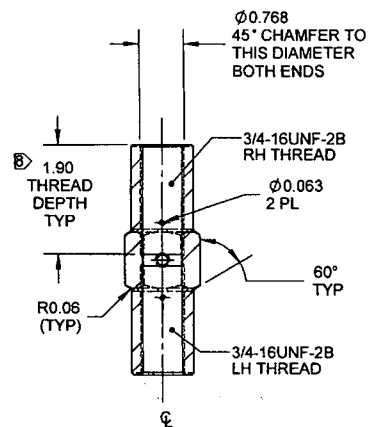
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

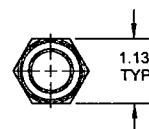
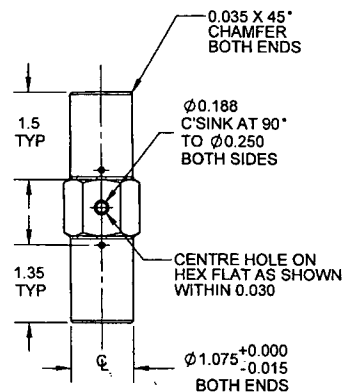
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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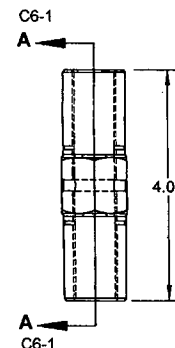
**NOTE:** Date & initial all entries



SECTION A-A  
D3-1



D3689-1 SLEEVE



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 70858

RELEASED  
08/12/15

- NOTES:
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: NONE
  - 7) WEIGHT: 0.67 lb
  - 8) DIMENSION SHOWN IS MINIMUM DEPTH OF FULL THREAD
  - 9) LPI PER ASTM 1417 LEVEL 2

B	CHANGE TO 17-4PH H-900 (ZN A8-1); REFORMATTED TO CURRENT DWG STANDARDS	RF	08.11.24
A	NEW ISSUE	RF	08.05.22
REV.		BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D3689	SHEET 1 OF 1
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	SLEEVE	NTS
DATE	08.11.24	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

W/O:		WORK ORDER CHANGES					
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## RAPPORT D'INSPECTION PAR RESSUAGE

P. 12376

PAGE 1 DE 1

CLIENT: Dart Aerospace DATE: 14-7-2011 HEURE: ☒ AM ☒ PM  
ATTENTION: Linda Lacelle N° TRAVAIL: 188-11-02320  
ADRESSE: 1270 ABERDEEN N° CLIENT PO/WO:  
Hawkesbury, ONT SITE DE TRAVAIL: Hawkesbury Plant  
PROJET: FPI ON CROSS TUBES AND ACCEPTATION STD.: ASTM 1417 DATE/REV.: 2005  
ITEM(S) EXAMINÉ: Sleeves

DESCRIPTION DES TRAVAUX N° PROCÉDURE: LT-4002 DATE/REV.: 2008 N° TECHNIQUE: LT-4002 DATE/REV.: 2008

N° ITEMS: 1 MATÉRIEL: Aluminium ÉPAISSEUR: Various  
DESCRIPTION: A wet Fluorescent Liquid penetrant examination was completed 100% external.

## DÉTAILS DES INSPECTIONS

MÉTHODE: ☒ FLUORESCENT ☐ VISIBLE ☒ LAVABLE À L'EAU ☐ MÉTHODE DISSOLVANT ☐ PRÉ-ÉMULSIONNANT  
MARQUE: Magna Flux LUM. NOIRE S/N: 1878 ☐ PUISS. > 1 000 µW/cm² ☐ AMBIANT < 2 fc  
PÉNÉTRANT: 2 LG7 TEMPS PÉNÉTRATION MIN.: 10 45 MIN. ÉQUIP. LUMIÈRE ☐ LAMP. POCHÉ ☒ LAMP. CULASSE ☐ PUISS. > 100 fc @ SURFACE  
DISSOLVANT PÉNÉTRANT: H2O TEMPS SÉCHAGE MIN.: >10 MIN. AUTRES:  
RÉVÉLATEUR: SKD 52 TEMPS RÉVÉLATION MIN.: 10 MIN. MÈTRE LUM. N/S: 00525 DATE CAL DUE: 15 oct 2011  
TYPE RÉVÉLATEUR: ☒ NON AQUEUX ☐ AQUEUX ☐ SEC

## SURFACE INSPECTÉE

CONDITION SURFACE: ☐ MEULÉE ☐ SOUDÉE ☒ MACHINÉE ☐ MRENAILLÉE ☐ MÉTAL PROPRE  
TEMPÉRATURE SURFACE: ☐ < -4°C/20°F ☐ -4°C/20°F à -10°C/50°F ☒ -10°C/50°F à 52°C/125°F ☐ > 52°C/125°F

## RÉSULTATS

☐ MÉTRIQUE ☐ IMPÉRIALE

ITEM	COMMENTAIRES	ACCEPTÉ	REJETÉ
1	Crosstube - W.O. 70645	✓	
1	Crosstube - W.O. 70644	✓	
1	Crosstube - W.O. 69360	✓	
1	Crosstube - W.O. 69361	✓	
18	Sleeve - W.O. 70858	✓	
1	Crosstube - W.O. 69105	✓	
1	Crosstube - W.O. 68521	✓	
1	Crosstube - W.O. 61771	✓	
1	Crosstube - W.O. 71035	✓	
1	Crosstube - W.O. 71036	✓	

## Étendue des Services

L'entente selon laquelle le Groupe Acuren Inc. exécute les services ne concerne que les énoncés par écrit. En aucune circonstance ces services ne s'étendent au-delà de l'exécution des services demandés. Il est entendu que toutes les descriptions, les observations et les expressions d'opinions faites par Acuren reflètent les opinions ou les observations de l'entreprise fondées sur l'information et les hypothèses fournies par le propriétaire/opérateur, et elles ne constituent pas des déclarations ou des garanties ou ne peuvent être interprétées comme constituant. Le Groupe Acuren Inc. n'assume aucune des responsabilités du propriétaire/opérateur, et le propriétaire/opérateur conserve la responsabilité entière des décisions prises en matière d'ingénierie, de fabrication, de réparation et d'usage à partir de l'information ou des données fournies par Acuren en rapport avec les services décrits dans les présentes ne peuvent excéder le coût des services rendus.

## Norme de Diligence

Dans l'exécution des services, le Groupe Acuren Inc. applique le degré de diligence, le soin et la compétence normalement exercés dans des circonstances semblables par d'autres fournisseurs de ce type de services opérant dans la même localité ou dans une localité similaire. Aucune autre garantie, implicite ou explicite, n'est faite ou voulue par le Groupe Acuren Inc.

## SIGNATURES

REPRÉSENTANT: Ian Titley FTJ#: 003577  
TECHNICIEN (SIGNATURE): [Signature] RAPPORT  
NOM (MOULÉ): ERIC ANDRIGER RÉVISÉ PAR:  
1<sup>er</sup> TECHNICIEN 2<sup>ème</sup> TECHNICIEN  
ONGC NIVEAU II SNT NIVEAU \_\_\_\_\_ ONGC NIVEAU \_\_\_\_\_ SNT NIVEAU \_\_\_\_\_  
ONGC N° REGISTRATION 10780 ONGC N° REGISTRATION \_\_\_\_\_